

Abstract

A method and apparatus are provided for emulating VPLS within an ATM network. Provider Edge devices are configured for the VPLS connections. Each provider edge device advertises its configured VPLS IDs to other provider edge devices by propagating an information group up the PNNI hierarchy, the information group containing an association between an ATM address of the provider edge device and the VPLS ID. Information groups are propagated back down the PNNI hierarchy, so that each lowest level node learns all ATM addresses to be associated with each VPLS ID. For each pair of provider edge devices supporting the same VPLS ID, one of the provider edge devices establishes a virtual circuit between the pair. In this way, a mesh of virtual circuits is established between provider edge devices, and a VPLS-like service can be offered to users without having to implement MPLS. The method of advertising ATM addresses can also be applied to other services requiring a number of interconnections between provider edge devices, such as Virtual Private Networks.